

Avoid Risk—

Evaluate Bulls for Breeding Soundness

Cattlemen have never been able to afford the risk of not getting all the cows bred each season, yet many consistently take that kind of chance every year. In today's economic environment such a risk has become totally unacceptable. Modern veterinary science has identified the qualities necessary for increased breeding performance in both the cow and the bull.

The ultimate measure of fertility in a range bull is his ability to impregnate the required number of cows within the desired breeding season under the prevailing conditions of husbandry. Individual bull fertility is subject to change because of environmental influences, seasonal effects, mating frequency and disease. Sudden changes in feed supply and weather conditions, rapid loss of body weight, and transport to new surroundings are important physical influences. High mating frequency usually reduces semen volume and quality and may, in extreme cases, result in lowered fertility. Separation from the cows for a week usually results in recovery; however, six weeks is required for sperm to develop from the generating membrane to functional maturity.

Because economics dictates that a bull must be evaluated before proving himself during the first breeding season, a breeding soundness examination is in order. Such an examination should involve more than just collecting a semen ejaculate and looking at it under a microscope. In addition to the usual physical characteristics of size, scale, conformation and early growth performance, your bull must have sex drive and mating ability.

Semen quality is most frequently and most easily measured, but identifies only a small percentage of inefficient bulls. An ejaculate of semen is examined microscopically to determine rate of movement of the sperm, and their size and shape. A bull should not be disqualified on the basis of one poor sample because some individuals do not respond well to available collection techniques, and young sexually inactive bulls may have poor initial semen quality.

Concentration or capacity for producing sperm is very important. Heavy use during the breeding season may deplete the sperm reserve to the point that not enough numbers are ejaculated to settle a high percentage of the cows. Scrotal circumference is the best known indicator of sperm producing ability. Within normal ranges, the bull with larger testicles will have the ability to produce more sperm and will have a greater sperm reserve than one with small testicles.

Too much overlay breeding can deplete your bull's sperm reserve. If several bulls are repeatedly breeding the same cows, they may not be able to service the other cows in heat.

Sex drive is a vital criterion in breeding

performance. For accurate evaluation, one must observe the bull's reaction time to a receptive female, and also his exhaustion time. A bull with adequate sex drive may be prevented from breeding if he is with other socially dominant bulls. New bulls introduced to a herd may take as long as three years to achieve adequate social dominance to breed effectively. Determine the sex drive of each bull, then manage bull distribution in the herd to use it adequately.

Mating ability refers to the learned activities associated with reproduction and involves inexperience, physical handicaps, and injuries. A young bull must learn by trial and error how to mount and effectively breed a cow. Small size or short legs may prevent reaching the vulva. Some bulls never learn to get properly positioned to breed. A bull who lifts himself with his head and neck may have spinal disease. Defects of legs and hips can be critical.

Defects or injuries of the penis may prevent insertion into the vagina. Scrotal problems may interfere with ejaculation or lead to lowered sperm production. Observation and physical examination will bring these conditions to light.

A breeding soundness examination then should include semen evaluation, rectal palpation of accessory sex structures and the reproductive tract, and a thorough physical examination. Breeding performance in the field should also be closely observed, especially at the beginning of the season.

In addition, don't forget to vaccinate the bulls for the same diseases as the cows. Bulls are not only mechanical and biological carriers of such things as vibriosis, but also may serve as reservoirs of infection for IBR, BVD, PI₃, Lepto, Pasteurella, and Clostridium infections. Vaccination helps to eliminate this potential source of economic loss.

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Lingering Effects of Winter Weather Could Be Costly

Subzero temperatures and bitter winter weather have taken their toll on livestock in many parts of the country. As the spring thaw starts breeders are advised to be aware of problems which linger as a result of this past winter. Reports around the country indicate many bulls have been rendered temporarily or permanently sterile.

Frigid temperatures have severely damaged not only sperm-producing tissue within the testicles but the external surface of the testicles in some bulls as well.

Fertility evaluation of bulls is a practice largely ignored by too many cattlemen. In view of the current situation, breeders are encouraged to improve management this spring by having bulls physically examined and semen tested.

Bulls with scrotums bearing scabs, scars or other symptoms of frostbite may or may not have permanent or temporary damage. Veterinarians say damage cannot always be evaluated visually. However, if the testicle is not mobile within the scrotum, there is a good chance of injury.

It takes approximately 40 to 60 days

for sperm to be produced within the testicles. Bulls which had poor semen tests earlier could possibly recuperate prior to the breeding season.

Even when cold weather is not a factor, evaluation of bulls for breeding soundness shows one to two bulls out of 10 are not capable of settling cows with maximum efficiency. A Colorado State

University study of nearly 11,000 breeder-owned bulls found 20 percent either questionable or unsatisfactory for breeding purposes. Using semen evaluation, over 11 per-

cent of the bulls tested as questionable, over 7 percent were rated unsatisfactory and over 2 percent of the bulls semen checked okay, but a physical defect made them unable to mate.

This Colorado study should alert breeders to the importance of performing a breeding soundness exam prior to the breeding season. A fertility check is more than a microscopic examination of the semen. It should include an examination for any physical defects, inspection of the internal reproductive organs and measurement of testical circumference.

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"This winter's potential damage may force stockmen to do what they should have been doing all along."

—Doug Hixon, University of Wyoming Extension Beef Specialist